

Item 10: Physical and Biophysical Chemistry Division

Appendix 1 – Publications and Meetings Organized by the Physical and Biophysical Chemistry Division Biennium 2000 – 2001

A. Publications that have appeared in print or are in press

1. Plenary lectures, 16th IUPAC Conference on Chemical Thermodynamics, Halifax, Nova Scotia, Canada, **Pure Appl. Chem.**, 72, 1799-1849 (2000)
2. M. Ribeiro da Silva, *Thermochemistry of Chemical Reactions: Nomenclature, Symbols and Experimental Methods for Bond Energies*, **J. Chem. Thermodyn.**, submitted. (120/15/95)
3. A.P. Kudchadker, D. Ambrose and C. Tsonopoulos, *Vapour-liquid critical properties of elements and compounds. 7. Oxygen compounds other than alkanols and cycloalkanols*, **J. Chem. Eng. Data**, in press. (2000-026-1-100; 121/10/87)
4. D. Ambrose and C. Tsonopoulos, *Vapour-liquid critical properties of elements and compounds. 8. Miscellaneous compounds D.*, **J. Chem. Eng. Data**, in press. (2000-026-1-100; 121/10/87)
5. E. Vogel, C. Küchenmeister and E. Bich, *Viscosity correlation for n-butane in the fluid region*, **High Temp-High Press**, 31, 173 (1999). (122/1/83)
6. E. Vogel, C. Küchenmeister and E. Bich, *Viscosity correlation for isobutene over wide ranges of the fluid region*, **Int. J. Thermophys.**, 21, 343-357 (2000). (122/1/83)
7. M. J. Assael, E. Bekou, D. Giakoumakis, D. G. Friend, M. A. Killeen, J. Millat, A. Nagashima. *Experimental data for the viscosity and thermal conductivity of water and steam*, **J. Phys. Chem. Ref. Data**, 29, 141-166 (2000). (122/3/85)
8. M.L.V. Ramires, C.A. Nieto de Castro, R.A. Perkins, Y. Nagasaka, A. Nagashima, M.J. Assael and W.A. Wakeham, *Reference Data for the Thermal Conductivity of Saturated Liquid Toluene Over a Wide Range of Temperatures*, **J. Phys. Chem.**, 29 133-139 (2000). (122/3/85)
9. M.J. Assael, A. Leipertz, E. MacPherson, Y. Nagasaka, C.A. Nieto de Castro, R.A. Perkins, K. Ström, E. Vogel and W.A. Wakeham, *Transport Property Measurements on the IUPAC Sample of 1,1,1,2-Tetrafluoroethane (R134a)*, **Int. J. Thermophys.** 21, 1-22 (2000). (122/3/85)
10. N. Dalaouti, M.J. Assael, K. Harris and J.M.N.A. Fareleira, *Reference data for the viscosity of toluene over a wide range of pressures*, **Int. J. Thermophys.** in press.

Item 10: Physical and Biophysical Chemistry Division

11. R. Atkinson, D.L. Baulch, R.A. Cox, R.F. Hampson, Jr., J.A. Kerr (Chairman), M.J. Rossi and J. Troe, *Evaluated Kinetic and Photochemical Data for Atmospheric Chemistry. Supplement VIII (Halogen Species)*, **J. Phys. Chem. Ref. Data**, 29, 167-266 (2000). (141/3/89)
12. R.K. Harris, J. Kowalewski and S. Cabral de Menezes, *Parameters and Symbols for Use in Nuclear Magnetic Resonance*, **Pure Appl. Chem.**, 69, 2489-2495 (1997). (150/19/93)
- *12a. R.K. Harris, J. Kowalewski and S. Cabral de Menezes, *Parameters and Symbols for Use in Nuclear Magnetic Resonance*, **Magnetic Resonance in Chemistry**, 36, 145-149 (1998). (150/19/93)
- *12b. R.K. Harris, J. Kowalewski and S. Cabral de Menezes, *Parameters and Symbols for Use in Nuclear Magnetic Resonance*, **Solid State NMR**, 10, 111-116 (1998). (150/19/93)
13. J.E. Bertie, *Specification of Components, Methods and Parameters in Fourier Transform Spectroscopy by Michelson and Related Interferometers (Technical Report)*, **Pure Appl. Chem.**, 70, 2039-2045 (1998). (150/19/93)
- *13a. J.E. Bertie, *Specification of Components, Methods and Parameters in Fourier Transform Spectroscopy by Michelson and Related Interferometers*, **Aust. J. Chem.**, 52, 721-725 (1999). (150/19/93)
- *13b. J.E. Bertie, *Specification of Components, Methods and Parameters in Fourier Transform Spectroscopy by Michelson and Related Interferometers*, **Appl. Spectros.** Submitted. (150/19/93)
14. J.J.P. Stewart, *Guidelines for Presentation of Methodological Choices in the Publication of Computational Results: B. Semiempirical Electronic Structure Calculations (Technical Report)*, **Pure Appl. Chem.**, 72, 1449-1452 (2000). (155/1/95)
15. R.A. Schoonheydt, *Pillared Clays and Pillared Layered Solids*, **Pure Appl. Chem.**, 71, 2367-2371 (1999). (160/2/95)
16. L.K. Koopal, M. Misono, I. Dékány, *Interfaces Against Pollution*, **Colloids and Surfaces A**, 151, 1-2 (1999). (170/1/87)
17. L.B. McCusker, F. Liebau and G. Engelhardt, *Nomenclature of Structural and Compositional Characteristics of Ordered Microporous and Mesoporous Materials with Inorganic Hosts*, **Pure Appl. Chem.**, 73, 381-394 (2001). (IUPAC Recommendation).
18. D.R. Thévenot, K. Toth, R.A. Durst, and G.S. Wilson, *Electrochemical Biosensors: Recommended Definitions and Classification (Technical Report)*, **Pure Appl. Chem.**, 71, 2333-2348, (1999). (170/1/87; 550/31/87)

Item 10: Physical and Biophysical Chemistry Division

- *18a. D.R. Thévenot, K. Toth, R.A. Durst, G.S. Wilson, *Electrochemical Biosensors: Recommended Definitions and Classification*, **Biosens. Bioelectron.**, 16, 121-131 (2001). (170/1/87; 550/31/87)
19. H. -J. Hinz and F.P. Schwarz, *Measurement and Analysis of Results Obtained on Biological Substances with Differential Scanning Calorimetry*, **Pure Appl. Chem.**, in press. (170/8/94)

*Reprinted PAC document

B. Monographs

1. E.R. Cohen, T. Cvitaš, J.G. Frey, B. Holmström, K. Kuchitsu, R. Marquardt, I.M. Mills, F. Pavese, M. Quack, J. Stohner, H.L. Strauss, M. Takami, A.J. Thor, *Quantities, Units and Symbols in Physical Chemistry* 3rd Ed. (110/2/81)
2. *Equations of State for Fluids and Fluid Mixtures*. IUPAC Series on Experimental Thermodynamics Vol. 5, J.V. Sengers, R.F. Kayser, C.J. Peters and H.J. White, Jr., eds. Elsevier, Amsterdam, Netherlands, 928 pp. (2000). (122/5/93)
3. *Conductivities, Transference Numbers, and Limiting Ionic Conductivities of Solutions of Aprotic Protophobic Solvents*, DECHEMA Chemistry Data Series Vol. XII, Part 1d, Electrolyte Data Collection, J. Barthel and R. Neueder, II, eds. DECHEMA, Frankfurt, 583 pp. (1999). (120/12/89)
4. *Conductivities, Transference Numbers, and Limiting Ionic Conductivities of Solutions of Aprotic, Protophobic Solvents: III Ketones, Esters and Nitrocarbons (C₁-C₄)*, DECHEMA Chemistry Data Series Vol. XII, Part 1e, Electrolyte Data Collection, J. Barthel and R. Neueder, eds. DECHEMA, Frankfurt, 488 pp. (2000). (120/12/89)
5. *Conductivities, Transference Numbers, and Limiting Ionic Conductivities of Solutions of Aprotic, Protophobic Solvents III Ketones, Esters and Nitrocarbons (C₄-C₈)*, DECHEMA Chemistry Data Series Vol. XII, Part 1f, Electrolyte Data Collection, J. Barthel and R. Neueder, eds. DECHEMA, Frankfurt, 357 pp. (2000). (120/12/89)
6. IUPAC Series on Experimental Thermodynamics, Vol. II, 2nd Ed., W.A. Wakeham, R.D. Weir, T.W. deLoos, A. Goodwin, eds. (120/16/97)
7. *Measurement of the Thermodynamic Properties of Single Phases*, , IUPAC Series on Experimental Thermodynamics Vol. VI., A.R.H. Goodwin, K. Marsh, and W.A. Wakeham, eds., submitted.
8. *Measurement of the Properties of Multiple Phases*, IUPAC Series on Experimental Thermodynamics Vol. VII, T.W. de Loos and R.D. Weir, eds., submitted.

Item 10: Physical and Biophysical Chemistry Division

9. *Chemical Thermodynamics in the 21st Century*, Chemistry for the 21st Century Series, T.M. Letcher, ed., Blackwell Science, 1999, 360 pp. (120/17/97)

C. Manuscripts that are in the advanced Review Stage (IDCNS/Ext. Review)

1. I. Wadsö (coordinator), A.E. Beezer, R.N. Goldberg, G. Olofsson, K. Murphy, J. Rouquerol and J. Sipowska, *Standards in Isothermal Microcalorimetry* (Technical Report), under review (120/18/97)
2. R. Atkinson, D.L. Baulch, R.A. Cox (Chairman), R.F. Hampson, Jr., M.J. Rossi and J. Troe, *Evaluated Kinetic and Photochemical Data for Atmospheric Chemistry. Supplement IX (Non-reactive heterogeneous interactions)*, **Glenn Carver, Cambridge University/UK**, submitted to web database. (140/7/93)
3. R. Atkinson, D.L. Baulch, R.A. Cox, (Chairman), R.F. Hampson, Jr., M.J. Rossi and J. Troe, *Evaluated Kinetic and Photochemical Data for Atmospheric Chemistry. Supplement X (Reactive heterogeneous interactions)*, **Glenn Carver, Cambridge University/UK**, submitted to web database. (140/7/93)
4. R. Janoschek, M. Quack, *The Computation of Experimental Structure and Properties of Small Molecules by Ab Initio Calculation*, under review. (150/2/95)
5. R.K. Harris, E.D. Becker, S. Cabral de Menzes, R. Goodfellow, and P. Grainger, *NMR Nomenclature: Nuclear Spin Properties and Conventions for Chemical Shifts*, under review (IUPAC Recommendation). (150/18/93)
6. R.A. Alberty, J.M.G. Barthel, E.R. Cohen, R.N. Goldberg, E. Wilhelm, *Use of Legendre Transforms in Chemical Thermodynamics*, under review. (Technical Report).

D. Projects Expected to be Completed by December 2001

1. J.P.M. Trusler and W.A. Wakeham, *International Thermodynamic Tables of the Fluid State, Volume 14, Benzene*, submitted. (121/13/89; DPC-3)
2. W.A. Wakeham, *International Thermodynamic Tables of the Fluid State, Volume 15, Carbon Dioxide*, submitted. (121/17/95)
3. A. McKeown, D. Morton and D. Young, *Vapour-liquid critical properties of elements and compounds. 9. Nitrogen compounds A.*, **J. Chem. Eng. Data**, to be submitted. (2000-026-1-100; 121/10/87; DPC-9)

Item 10: Physical and Biophysical Chemistry Division

4. A. McKeown, D. Morton and C. Young, *Vapour-liquid critical properties of elements and compounds. 10. Halogen compounds*, **J. Chem. Eng. Data**, to be submitted. (2000-026-1-100; 121/10/87; DPC-9)
5. U.K. Deiters, J.H. Dymond, A. Heintz, A. Laesecke, *Thermochemical, Thermodynamic and Transport Properties of Halogenated Organic Compounds and Mixtures*, **Fluid Phase Equilibria, Special Issue**, 174, 247 pp. (2000-027-1-100; DPC-10; 121/18/98)
6. Z. Samec, *Electrochemistry at the Interface Between Two Immiscible Solutions*, (130/32/98).
7. M.A. Brett and J.F. Rusling, *Electrochemistry for the Environment*, pending. (130/33/98)
8. R. Atkinson, D.L. Baulch, R.A. Cox, (Chairman), R.F. Hampson, Jr., M.J. Rossi and J. Troe, *Evaluated Kinetic and Photochemical Data for Atmospheric Chemistry. Supplement XI (Photochemical Reactions)*, in preparation. (DPC-6)
9. M. Terazima and N. Hirota, *Quantities, Terminology, and Symbols in Photothermal and Related Spectroscopies*, submitted. (150/25/98)
10. R. S. McDowell, J. E. Bertie, P. R. Bunker, J.-M. H. Flaud, J. T. Hougen, P. Rosmus, J. K. G. Watson, and B. P. Winnewisser, *Notations and Conventions in Molecular Spectroscopy: Part 4. Rotation-Vibration Spectroscopy*. (154/5/97)
11. J.K.G. Watson and R.S. McDowell, *Notations and Conventions in Molecular Spectroscopy Part 5. Rotation-Vibration Spectroscopy*. (154/6/97)
12. F. Gonzalez-Caballero, *Measurement and Interpretation of Electrokinetic Phenomena*, submitted. (160/5/98)
13. J.R. Bolton and V.N. Parmon, *Glossary of Terms in Photocatalysis and Radiation Catalysis*, submitted. (330/21/98)
14. E.Y.H. Ma, L.K. Koopal, *Recommendations for the Characterization of Inorganic Membranes*. (DPC-7)

E. Meetings Organized

1. 16th IUPAC Conference on Chemical Thermodynamics (ICCT), Halifax, Nova Scotia, Canada, August 6-11, 2000.

Item 10: Physical and Biophysical Chemistry Division

2. First International Workshop on Thermochemical, Thermodynamic and Transport Properties of Halogenated Alkanes and Their Mixtures, Pisa, Italy, December 15-18, 1999. (DPC-10)
3. The Second International Workshop on Thermochemical, Thermodynamic and Transport Properties of Halogenated Alkanes and Their Mixtures Workshop, Fontainebleau, France, April 9-11, 2001. CI Vol. 23, No 1, page 25, 2001.
4. C.M.A. Brett, J.F. Rusling and S. Ardizzone, *Electrochemistry and Interfacial Chemistry for Environmental Clean-UP and Green Chemical Processes*, a workshop, Coimbra, Portugal, April 6-7, 2001. (1999-005-1-100; DPC-1 Rev.)
5. E.Y.H. Ma, L.K. Koopal, *Recommendation for the Characterization of Inorganic Membranes*, Sixth International Conference on Inorganic Membranes, Montpellier, France, June 26-30, 2000.

F. Projects Continued to Next Biennium

1. J. Ralston, L.K. Koopal, *Recommendations for the use of Atomic Force Microscopy in the Direct Measurements of Colloidal Forces*. (DPC-2)
2. D.H. Everett, *Manual of Symbols and Terminology for Physicochemical Quantities and Units: Appendix II: Definitions, Terminology and Symbols in Colloid and Surface Chemistry – Part 1: Colloid and Surface Chemistry*, **Pure Appl. Chem.**, 31, 577-638 (1972). Creation of improved Web version.
3. T. Bérces, A. Burcat, M.A.V. Ribeiro da Silva, M.J. Rossi, B. Ruscic, P.W. Seakins, P.R. Westmoreland, F. Zabel, *Selected Free Radicals and Critical Intermediates: Thermodynamic Properties from Theory and Experiment*. (DPC-8)
4. R.A. Cox, R. Atkinson, D.L. Baulch, R.F. Hampson, Jr., M.J. Rossi, J. Troe, *Evaluated Kinetic Data Evaluation for Atmospheric Chemistry*. (DPC-6) (141/3/89)